1   1. A single-channel RF weather monitoring and display system displaying information at one

2   location representative of weather monitored at multiple, other locations remote from said one

3   location, comprising:

4   a portable, battery-powered and hand-holdable weather station, deployable at each of said

5   remote locations, including a housing; a sensor connected to said housing for measuring a

6   predetermined parameter representative of the weather prevailing in the environ of said sensor at

7   the location where said station may be deployed; an antenna mounted to said housing; means for

8   setting station ID; and a processor-controlled transmitter mounted in the housing and coupled to

9   said sensor, said station ID setting means and said antenna repetitively operative (1) to compile

10   a data packet having information representative of station ID and of said weather parameter sensed

11   by said sensor at said location where said station may be deployed, (2) to generate a unique

12   schedule of at least one transmission times in such a way that the unique schedule of at least one

13   transmission times does not overlap in time with that of other remote locations where portable,

14   battery-operated and hand-holdable weather stations may be deployed and, in accord therewith,

15   to schedule a time to transmit said data packet, and operative (3) to modulate a predetermined-

16   frequency RF carrier wave to transmit said data packet at said scheduled time to enable at said one

17   location contention-free receipt over said single-channel of data packets transmitted from said

18   multiple, remote locations where portable, battery-powered and hand-holdable weather stations

19   may be deployed.

1   2. The single-channel RF weather monitoring and display system displaying information at one

2   location representative of weather monitored at multiple, other locations remote from said one

3   location of claim 1, wherein said unique schedule is a random schedule.

1   3. The single-channel RF weather monitoring and display system displaying information at one

2   location representative of weather monitored at multiple, other locations remote from said one

3   location of claim 1, wherein said unique schedule is a schedule of predetermined times.

1   4. The single-channel RF weather monitoring and display system displaying information at one

2   location representative of weather monitored at multiple, other locations remote from said one

3   location of claim 3, wherein said predetermined times are determined as two phase schedules

4   consisting of alternating transmit times defined by {period + phase} and {period - phase}.

1   5. A battery-powered RF weather monitoring and display system, comprising:

2   a portable, battery-powered and hand-holdable weather station, deployable at a remote

3   location to monitor a predetermined weather parameter and transmit the monitored weather

4   parameter to a remote, battery-powered base weather station for display, including a housing; a

5   sensor connected to said housing for measuring said predetermined parameter representative of

6   the weather prevailing in the environ of said sensor at the location where said portable, battery-

7   powered weather station may be deployed; an antenna; means for setting station ID; and a

8   processor-controlled transmitter mounted in the housing and coupled to said sensor and said

9   antenna repetitively operative (1) to compile a data packet having first information representative

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10   of station ID, second information representative of said weather parameter sensed by said sensor

11   at said location where said portable, battery-powered and hand-holdable weather station may be

12   deployed, and third information that enables the remote battery-powered base weather station to

13   determine time-of-next transmission allowing the same to enter battery-power-conserving mode

14   until that time, and operative (2) to transmit said data packet to said portable, battery-powered base

15   weather station; and

16   a portable, battery-powered base weather station operative in response to receipt of a data

17   packet transmitted by said portable, battery-powered and hand-holdable remote weather station to

18   recover said first information and display said sensed weather parameter, and to recover said third

19   information and go into battery power conserving mode until the time of transmission of the next

20   data packet expected from said portable, battery-powered and hand-holdable remote weather

21   station.

6. A method of encoding weather data at a portable, battery-powered weather station transmitter

that maximizes detection sensitivity at a base station receiver data slicer, comprising the steps of:

3   defining weather data to be transmitted in terms of digital ones and zeros; and

4   encoding the digital ones and zeros of the weather data to be transmitted in terms of first

5   and second coded combinations of ones and zeros such that none of the ones of the first and second

6   coded combinations of ones and zeros are adjacent one another but are separated from each other

7   by at least one zero, which prevents ripple at said base station receiver data slicer and thereby

8   maximizes its detection sensitivity.

1   7. A multiple station weather monitoring and weather information display system, comprising:

2   a transmitter station including at least one probe monitoring first and second weather

3   parameters and transmitting data representative of the first and second weather parameters

4   monitored; and

5   a receiver station responsive to said data selectably displaying (1) first information

6   representative of said first weather parameter; (2) second information representative of said second

7   weather parameter and (3) third information derived from said first and said second weather

8   parameters in accord with a predetermined relation.

1   8. The multiple station weather monitoring and weather information display system of claim 7,

2   wherein said first parameter and said first information are temperature, said second parameter and

3   said second information are percent relative humidity, and said third information is heat index.

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